



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/666,630   | 09/20/2000  | Kaushal Kurapati     | US000240            | 5682             |
| 24737  | 7590        | 09/06/2006           | EXAMINER            |                  |
| PHILIPS INTELLECTUAL PROPERTY & STANDARDS<br>P.O. BOX 3001<br>BRIARCLIFF MANOR, NY 10510 |             |                      | MA, JOHNNY          |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 2623                |                  |

DATE MAILED: 09/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.



### **DETAILED ACTION**

Please note that this is a new Final Office Action in view of the amendment to the claims filed on 4/26/2005 and the pre-brief appeals conference decision filed 6/22/2006. It is noted that decision to reopen prosecution was made for the purpose of clarifying the record including incorporating portions of the Advisory Action, mailed 9/21/2005, into the current Office Action.

#### ***Response to Arguments***

1. Applicant's arguments filed 4/22/2006 have been fully considered but they are not persuasive.

Applicant argues “[b]oth Bedard and Herz fail to teach generating a set of program recommendation scores,  $S_1$  and  $S_k$ , for a set of programs based on two viewing history sub-sets,  $VH_1$  and  $VH_k$ ; and comparing the sets of program recommendation scores,  $S_1$  and  $S_k$  to identify a change in the viewer preferences. Both Bedard and Herz also fail to teach comparing such sets of scores  $S_1$  and  $S_k$  to identify a change in the viewer preferences.” The examiner respectfully disagrees. As discussed below, the claimed generating a corresponding set of program recommendation scores,  $S_1$  and  $S_k$  for a set of programs” is met by the determination of viewing units (program recommendation scores), the amount of time a given channel have been viewed, for each channel viewed by a user wherein the determination of viewing units for a currently viewed channel comprising programs, not already an entry in viewer profile array, corresponds to a second set of program recommendation scores, and the viewing units that were generated for existing entries in the viewer profile array corresponds to a first set of program recommendation scores (Bedard, see columns 5-6). The claimed “based on at least two viewing history sub-sets,  $VH_1$  and  $VH_k$ ” is met by the channel entries that correspond to the viewing units, as illustrated

Art Unit: 2623

in Figure 2 (Bedard), wherein the channels existing in the viewer profile array corresponds to a first viewing history sub-set and the new entry, the currently viewed channel not existing in the viewer profile array, corresponds to a second viewing history sub-set (Bedard, see columns 5-6). The claimed “comparing the sets of program recommendation scores to identify a change in viewer preferences” is also met by the Bedard reference teaching the comparison of recent selections (viewing history subset 2) to old selections (viewing history subset 1) to determine if the profile should be updated (Bedard 6:33-63) wherein an update in the profile corresponds to the identification of a change in viewer preferences, since an update would not be necessary unless a viewer’s preferences have changed. It is noted that a change in viewer preferences is determined by comparing the viewing units corresponding to the viewing entries for the recent selection (viewing history subset 2) with the viewing units of the previous selections, viewer profile array 200 (viewing history subset 1), wherein the viewing units correspond to program recommendations scores (Bedard, see column 6 ).

Applicant further argues “[a] ranking by relevance will produce a single set of scores for the channels. The applicant specifically claims producing at least two sets of scores, and the Office action fails to identify where either Bedard or Herz teaches producing to sets of scores.” The examiner respectfully disagrees. As discussed above, Bedard teaches determining the amount of time corresponding channels have been viewed, viewing units. The Bedard viewing units correspond to program recommendation scores and the recommendation scores are based on the at least two viewing history subsets (new entry and viewer profile entries). The scores are produced by the determining the number of viewing units that corresponds to each channel (Bedard, see column 6).

Applicant also asserts “applicant specifically claims that these two sets of scores are determined for programs in a given time interval, and the Office action asserts that Herz’s use of different time intervals corresponds to this given time interval. The applicant also respectfully disagrees with this assertion, for being contrary to the plain language of the claim.” The examiner respectfully submits that applicant has mischaracterized the application of the Herz reference. As discussed in the previous Office Action:

*Now note the Herz et al. reference that discloses a system and method for maintaining customer profiles for each customer. The claimed “programs in a given time interval” is met by where the plurality of customer profiles are representative of the customer’s changing preferences for the predetermined characteristics in accordance with time of the day and of the week, thereby reflecting changes in the customer’s preferences or ‘moods’ during the course of the week (Herz 5:30-35). ). The Herz et al. reference further discloses tracking user preferences by specific programming watched by the user (Herz 6:64-67). Therefore, the examiner submits that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Bedard user viewing history recommendations with the Herz et al. tracking user preferences for specific time periods and by particular programs for the purpose of providing user recommendations that are more closely tailored to a users typical viewing habits/moods at a given time.*

The cited portion of the Herz reference teaches the determination of a customer’s preferences during a given time interval. This teaching is illustrated by Herz’s further disclosure that “the agreement matrix determining step comprises the step of using different customer profiles for each customer in accordance with the time of the day and of the week, thereby reflecting changes in the customer’s preferences or ‘moods’ during the course of the week” (Herz 5:30-40).

With regard to Applicant’s assertion that “the Office action fails to demonstrate where Bedard or Herz identify a change to a viewer’s preference based on a comparison of two sets of

Art Unit: 2623

scores.” The examiner respectfully submits, as discussed above, the Bedard reference teaches two sets of scores, a first set of scores corresponding to the new entry and a second set of scores corresponding to preexisting entries within the viewer profile. The Bedard system compares the first set of scores with the second set of scores in order to determine whether a new entry should be added to the viewer profile upon identifying a change in user preferences (Bedard, see columns 5-6).

Applicant further argues that “[b]oth Bedard and Herz fail to teach deleting a portion of the viewing history if sets of program recommendation scores  $S_1$  and  $S_k$  are substantially similar.” This limitation is met by comparing current and past selection histories and updating the records by maintaining a list of the most relevant past selections. Specifically, old entries may be replaced as taught in col. 5:59-60 or updated if they are similar but have different viewing units as taught in col. 5:44-48. It is noted that Applicant does not claim a specific criteria for determining whether recommendation scores  $S_1$  and  $S_k$  are substantially similar. Thus the examiner respectfully submits that the comparison of viewing units between the past selection histories and the new entry satisfies this limitation wherein the respective scores may vary by one viewing unit, making their scores substantially similar, but resulting in the deletion of a portion of the viewing history if the new entry score is at least one viewing unit greater than any entry within the viewing history.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 2623

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-7, 9-12, 14-22, 24-27, and 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bedard (US 5,801,747 of record) in further view of Herz et al. (US 6,088,722).

As to claims 1, 3, 16, 18, and 31, note the Bedard reference teaches a system and method for monitoring viewing history to determine programs to recommend to viewers. The claimed apparatus, method, and article of manufacture “for identifying changes in television viewing preferences of an individual” is met by Bedard with reference to Figures 2 and 3 and corresponding methods described in detail below (see also Bedard 3:32-55). Bedard teaches computer executable instructions configured in memory to be executed by a processor for “obtaining a viewer history indicating a set of programs that have been watched by a user” as seen by the flowchart of Fig. 3 and taught in column 5, lines 6+, by tracking which channels are watched. A plurality of choices (Figs. 1,2) with respective records combine to form a user selection history. The overall selection history is established into “at least two viewing history sub-sets,” by comparing recent selections (subset 2) to old selections (subset 1) to determine if the profile should be updated using weighted techniques (Bedard 6:33-63) wherein an update in the profile corresponds to the identification of a change in viewer preferences, since it is inherent that an update would not be necessary unless a viewer’s preferences have changed. These selection histories are generated “profiles” in that they contain viewer record selections for the corresponding history period. The “profiles” are then updated by comparing the viewing units in order to “identify a change in user preferences” as illustrated by comparison step for adding new entries (Bedard 6:35-62) wherein the new entry is identified such that a comparison is inherent to the determination of whether an entry is new or preexisting. The claimed generating a

Art Unit: 2623

corresponding set of program recommendation scores,  $S_1$  and  $S_k$  for a set of programs” is met by the determination of viewing units (program recommendation scores), the amount of time a given channel have been viewed, for each channel viewed by a user wherein the determination of viewing units for a currently viewed channel comprising programs, not already an entry in viewer profile array, corresponds to a second set of program recommendation scores, and the viewing units that were generated for existing entries in the viewer profile array corresponds to a first set of program recommendation scores (Bedard, see columns 5-6). The claimed “based on at least two viewing history sub-sets,  $VH_1$  and  $VH_k$ ” is met by the channel entries that correspond to the viewing units, as illustrated in Figure 2 (Bedard), wherein the channels existing in the viewer profile array corresponds to a first viewing history sub-set and the new entry, the currently viewed channel not existing in the viewer profile array, corresponds to a second viewing history sub-set (Bedard, see columns 5-6). Also note, the Bedard reference teaches the “EPG of FIG. 5 can operate in conjunction with the viewer profile of the present invention to organize the individual channels in row 502 by viewer preference” (Bedard 7:39-41) “so as to provide faster access to information concerning the viewer’s preferred channels and/or programming categories” (Bedard 7:19-27). Further note the Bedard reference discloses tracking user preferences for channels (Bedard 6:23-27). However, the Bedard reference is silent as to recommending programs in a given time interval and fails to specifically disclose the tracking of specific programs rather than tracking channels. Now note the Herz et al. reference that discloses a system and method for maintaining customer profiles for each customer. The claimed “programs in a given time interval” is met by where the plurality of customer profiles are representative of the customer’s changing preferences for the predetermined characteristics in



Art Unit: 2623

accordance with time of the day and of the week, thereby reflecting changes in the customer's preferences or 'moods' during the course of the week (Herz 5:30-35) wherein preferences are determined for a given time interval (Herz 5:35-40). The Herz et al. reference further discloses tracking user preferences by specific programming watched by the user (Herz 6:64-67).

Therefore, the examiner submits that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Bedard user viewing history recommendations with the Herz et al. tracking user preferences for specific time periods and by particular programs for the purpose of providing user recommendations that are more closely tailored to a users typical viewing habits/moods at a given time. The claimed "comparing said sets of program recommendation scores, S1 and Sk, based on respective viewing history subsets, to identify a change in said viewer preferences" is met by the comparison of a new entry (viewing history subset 2) to existing viewer profile array entries (viewing history subset 1) to determine if the profile should be updated (Bedard 6:33-63) wherein an update in the profile corresponds to the identification of a change in viewer preferences, since an update would not necessary unless a viewer's preference have changed. In other words, the Bedard reference teaches two sets of scores, a first set of scores corresponding to the new entry and a second set of scores corresponding to preexisting entries within the viewer profile. The Bedard system compares the first set of scores with the second set of scores in order to determine whether a new entry should be added to the viewer profile upon identifying a change in user preferences (Bedard, see columns 5-6).

As to claims 11, 26 and 32, similar limitations are recited in claims 1, 16, and 31 with the additional limitation of deleting "a portion of said viewing history if said sets of program

Art Unit: 2623

recommendation scores...are substantially similar.” This limitation is met by comparing current and past selection histories and updating the records by maintaining a list of the most relevant past selections. Specifically, old entries may be replaced as taught in col. 5:59-60 or updated if they are similar but have different viewing units as taught in col. 5:44-48. Note, the comparison of viewing units between the past selection histories and the new entry satisfies this limitation wherein the respective scores may vary by one viewing unit, making their scores substantially similar, but resulting in the deletion of a portion of the viewing history if the new entry score is at least one viewing unit greater than any entry within the viewing history.

As to claims 2, 12, 17, and 27, the claimed comparing “the top-N (where N is a positive integer) recommended television programs in each set” is met by comparing the entries as taught in col. 6:35-39.

As to claims 4 and 19, the claimed “presenting a user with a set of recommended programs based on one or both of said sets of programs” is met by using the methods above and displaying a list of recommended programs as seen in Fig. 4 and taught in col. 7:14-28).

As to claims 5 and 20, the claimed “presenting a user with a union set of recommended programs based on said sets of programs” is taught by Bedard through building initial profile. While a profile is being built all entries, old and new will be saved while there is space as taught in col. 5:49-58. By keeping both old and new data, a union is formed.

As to claim 6 and 21, the claimed “presenting a user with an intersections set of recommended programs based said set of programs” is not specifically taught by Bedard. Examiner takes Official Notice that the creation of an intersection of sets of data is notoriously well known in the art. It would have been obvious to one of ordinary skill in the art at the time

Art Unit: 2623

the invention was made to modify the system and methods of Bedard by presenting users with a union of the two history sets in order to provide users with a list of elements that are in both the first and second sets.

As to claims 7 and 22, Bedard teaches giving weight to recently viewed programs (Bedard 6:44-46) and presenting users with a subset of recommendations (Bedard 8:24-30), but not explicitly “displaying recommended programs based on a more recent sub-set of said viewing history.” Nevertheless the examiner gives Official Notice that it is notoriously well known in the art of providing recommendations to weight current values more heavily than older values for the purpose of providing recommendations that are more suited to a user’s current interests. Therefore, the examiner submits that it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the Bedard display of recommendations accordingly for the above stated advantages.

As to claims 9-10, 14-15, 24-25, and 29-30, the claimed selection of the two histories from “a time span that is less than the entire time period covered by the viewing history” is met by selecting from a user selection history over a period of recent viewing as taught in col. 5:34-41. These entries are compared to older entries to determine which should be removed in the case a profile is full (col. 5:19-27). The selected time span is a “similar” time period to a given time period in that they are both time periods with a duration.

***Allowable Subject Matter***

4. Claims 8, 13, 23, and 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 2623

5. The following is a statement of reasons for the indication of allowable subject matter: the prior art, alone, or in combination fail to teach or fairly suggest “establishing at least two viewing history sub-sets, VH1 and VHk, from said viewing history wherein said at least two viewing history sub-sets, VH1 and VHk, from said viewing history are obtained by uniformly randomly sampling subsets of television programs from said viewing history.”

***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Johnny Ma whose telephone number is (571) 272-7351. The examiner can normally be reached on 8:00 am - 5:00 pm.

Art Unit: 2623

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on (571) 272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jm

  
CHRIS KELLEY  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600